```
  FILE 'CAPLUS' ENTERED AT 17:10:35 ON 04 APR 2000
L1          8881 SEA SAPONIN
L2            57 SEA L1 AND ARGININE
L3             0 SEA L2 AND ACETYL(W)CYSTEINE
L4             2 SEA L2 AND CYSTEINE
                 DISPLAY BROWSE
L5         52473 SEA NITRIC OXIDE
L6             0 SEA L5 AND NITROGEN RETENTION
L7            31 SEA NITROGEN RETENTION AND ARGININE
L8             4 SEA L7 AND CYSTEINE
L9             0 SEA L7 AND INOSITOL
L10            0 SEA L8 AND INOSITOL
                 DISPLAY BROWSE
L11        25626 SEA INOSITOL
L12          769 SEA L11 AND INSULIN
L13            4 SEA L12 AND INSULIN(W)ACTIVITY
                 DISPLAY BROWSE
L14         1839 SEA INOSITOL AND MUSCLE
L15            2 SEA L14 AND INCREASED MUSCLE
                 DISPLAY BROWSE

    FILE 'USPATFULL' ENTERED AT 17:20:35 ON 04 APR 2000
L16            0 SEA INOSITOL AMD MUSCLE
L17         1027 SEA INOSITOL AND MUSCLE
L18            0 SEA L17 AND MUSCLE INCREASE
L19           11 SEA L17 AND MUSCLE GROWTH
                 DISPLAY BROWSE
```

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-2

L15 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2000 ACS
AN 1993:184397 CAPLUS
DN 118:184397
TI D-Myo-**inositol**-1,2,6-triphosphate (PP56) antagonizes nonadrenergic sympathetic vasoconstriction: Possible involvement of neuropeptide Y
AU Schwieler, Jonas H.; Hjemdahl, Paul
CS Dep. Pharmacol., Karolinska Inst., Stockholm, S-104 01, Swed.
SO J. Cardiovasc. Pharmacol. (1993), 21(3), 347-52
CODEN: JCPCDT; ISSN: 0160-2446
DT Journal
LA English

L15 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2000 ACS
AN 1977:136948 CAPLUS
DN 86:136948
TI [3H]**inositol** incorporation into phosphatidyl-**inositol** in work-induced growth of rat **muscle**
AU Jablecki, Charles; Dienstag, Jules; Kaufman, Seymour
CS Lab. Neurochem., Natl. Inst. Ment. Health, Bethesda, Md., USA
SO Am. J. Physiol. (1977), 232(3), E324-E329
CODEN: AJPHAP
DT Journal
LA English
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:2, kwic

L15 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2000 ACS
TI [3H]**inositol** incorporation into phosphatidyl-**inositol** in work-induced growth of rat **muscle**
AB Unilateral tenotomy of the gastrocnemius **muscle** in normal rats caused rapid hypertrophy of the soleus and plantaris muscles. The phospholipid content of hypertrophic muscles increased; the. . . extent of hypertrophy and was distributed proportionally among the major phospholipid components. During the growth process, the hypertrophic muscles incorporated **inositol**-3H into phosphatidylinositol more rapidly than did the contralateral, control limb muscles. The increased incorporation was evident 2 h after the operation and could not be explained solely by an increased uptake of **inositol**-3H. After growth had ceased, the incorporation of **inositol**-3H into phosphatidylinositol gradually returned toward control levels. The increase in incorporation after tenotomy was prevented by simultaneous spinal section to. . . contrast, in rats that had been forced to swim for prolonged periods of time, there was no increased incorporation of **inositol**-3H into phosphatidylinositol. The increased incorporation of **inositol**-3H into phosphatidylinositol is apparently related to **increased muscle** activity sufficient to produce compensatory hypertrophy.
ST **muscle** phosphatidylinositol formation hypertrophy
IT Phosphatidylinositols
RL: FORM (Formation, nonpreparative)
(formation of, by **muscle** in hypertrophy)
IT Phospholipids
RL: BIOL (Biological study)
(of **muscle**, in hypertrophy)
IT **Muscle**, metabolism
(phosphatidylinositol formation by, in hypertrophy)
IT 87-89-8
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metab. of, by **muscle** in hypertrophy)

FILE COVERS 1967 - 4 Apr 2000 VOL 132 ISS 15
FILE LAST UPDATED: 3 Apr 2000 (20000403/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

Now you can extend your author, patent assignee, patent information, and title searches back to 1907. The records from 1907-1966 now have this searchable data in CAOLD. You now have electronic access to all of CA: 1907 to 1966 in CAOLD and 1967 to the present in CAPLUS on STN.

```
=> s saponin

L1         8881 SAPONIN

=> s L1 and arginine

          69058 ARGININE
L2           57 L1 AND ARGININE

=> s L2 and acetyl(w)cysteine

          83699 ACETYL
          59688 CYSTEINE
            396 ACETYL(W)CYSTEINE
L3            0 L2 AND ACETYL(W)CYSTEINE

=> s L2 and cysteine

          59688 CYSTEINE
L4            2 L2 AND CYSTEINE

=> display browse

ENTER (L4) OR L#:s L4

S L4 IS NOT A VALID L#

Enter the L-number (L1 through L999) of the query or answer set
to be displayed.

=> display browse

ENTER (L4) OR L#:L4

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-2


L4   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2000 ACS
AN   1978:420273  CAPLUS
DN   89:20273
TI   Comparative characteristics of biologically active substances of
     inflorescences of Robinia species
AU   Osipovich, L. I.
CS   Beloruss. Inst. Usoversh. Vrachei, Minsk, USSR
SO   Fitokhim. Izuch. Flory BSSR Biofarm. Issled. Lek. Prep. (1975), 77-80.
```

Editor(s): Medvedskii, E. N. Publisher: Leningr. Med. Inst. im. I. P. Pavlova, Leningrad, USSR.
CODEN: 37RZAE
DT Conference
LA Russian

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2000 ACS
AN 1975:69754 CAPLUS
DN 82:69754
TI Effect of ginseng on sodium-potassium activated ATPase in rabbit red cell membrane
AU Kang, Byoung Nam; Koh, Il Sup
CS Sch. Med., Kyung Hee Univ., Seoul, S. Korea
SO Taehan Saengri Hakhoe Chi (1974), 8(1), 55-65
CODEN: TSHCA4
DT Journal
LA Korean
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:2, kwic

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2000 ACS
AB . . . of activity of ginseng was const. The action of ginseng on ATPase was not related to the SH group of **cysteine**, the NH2 group of lysine, the imidazole group of histidine, the guanidinium group of **arginine**, the CO2H group of aspartic acid, or the OH group of threonine. The activating effect of ginseng on ATPase may be not due to a
saponin which is contained in ginseng.
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:end

=> s nitric oxide

89195 NITRIC
1023313 OXIDE
L5 52473 NITRIC OXIDE
(NITRIC(W)OXIDE)

=> s L5 and nitrogen retention

359743 NITROGEN
109890 RETENTION
662 NITROGEN RETENTION
(NITROGEN(W)RETENTION)
L6 0 L5 AND NITROGEN RETENTION

=> s nitrogen retention and arginine

359743 NITROGEN
109890 RETENTION
662 NITROGEN RETENTION
(NITROGEN(W)RETENTION)
69058 ARGININE
L7 31 NITROGEN RETENTION AND ARGININE

=> s L7 and cysteine

59688 CYSTEINE
L8 4 L7 AND CYSTEINE

=> s L7 and inositol

25626 INOSITOL
L9 0 L7 AND INOSITOL

=> s L8 and inositol

25626 INOSITOL
L10 0 L8 AND INOSITOL

=> display browse

ENTER (L10) OR L#:L8\

L8\ IS NOT A VALID L#

Enter the L-number (L1 through L999) of the query or answer set to be displayed.

=> display browse

ENTER (L10) OR L#:L8

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-4

L8 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1999:662010 CAPLUS
DN 131:336240
TI Adverse effects of excess DL-methionine in calves with different body weights
AU Abe, M.; Iriki, T.; Koresawa, Y.; Inoue, K.; Funaba, M.
CS School of Veterinary Medicine, Azabu University, Sagamihara, 229-8501, Japan
SO J. Anim. Sci. (Savoy, Ill.) (1999), 77(10), 2837-2845
CODEN: JANSAG; ISSN: 0021-8812
PB American Society of Animal Science
DT Journal
LA English

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1999:434435 CAPLUS
DN 131:198930
TI Effect of the ratio between essential and nonessential amino acids in the diet on utilization of nitrogen and amino acids by growing pigs
AU Lenis, Nico P.; van Diepen, Hans T. M.; Bikker, Paul; Jongbloed, Age W.; van der Meulen, Jan
CS Department of Nutrition of Pigs and Poultry, Institute for Animal Science and Health (ID-DLO), Lelystad, NL-8200, Neth.
SO J. Anim. Sci. (Savoy, Ill.) (1999), 77(7), 1777-1787
CODEN: JANSAG; ISSN: 0021-8812
PB American Society of Animal Science
DT Journal
LA English

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1995:831272 CAPLUS
DN 123:284433
TI Immediate commencement of amino acid supplementation in preterm infants: effect on serum amino acid concentrations and protein kinetics on the first day of life
AU Van Goudoever, J. B.; Colen, T.; Wattimena, J. L. D.; Muijmans, J. G. M.; Carnielli, V. P.; Sauser, P. J. J.
CS Dep. Pediatrics, Erasmus Univ., Rotterdam, Neth.
SO J. Pediatr. (St. Louis) (1995), 127(3), 458-65
CODEN: JOPDAB; ISSN: 0022-3476
DT Journal
LA English

L8 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1989:404596 CAPLUS
DN 111:4596
TI Metabolism of amino acids, organic acids and sugars extracted from the xylem fluid of four host plants by adult Homalodisca coagulata
AU Andersen, Peter C.; Brodbeck, Brent V.; Mizell, Russell F., III
CS Agric. Res. Educ. Cent., Univ. Florida, Monticello, FL, 32344, USA
SO Entomol. Exp. Appl. (1989), 50(2), 149-59
CODEN: ETEAAT; ISSN: 0013-8703
DT Journal
LA English
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-3, kwic

L8 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2000 ACS
AB . . . . meal diet at 62 g/kg of metabolic BW at both stages. At Stage 1,
the feed efficiency (gain/feed intake) and **nitrogen retention** did not differ between the group supplemented with 0.333 g DL-methionine and 0.111 g L-lysine HCl/kg BW/day and the group. . . citrate, although the level of DL-methionine was considered to be enough to induce toxicity. Administration of isonitrogenous casein dose increased **nitrogen retention**. At Stage 2, administration of the same levels of methionine and lysine resulted in decreased feed intake, depressed **nitrogen retention**, and BW loss. Administration of the isonitrogenous casein dose did not increase **nitrogen retention** compared with the supplement of isonitrogenous diammonium citrate. Administration of excess
methionine and lysine increased blood plasma methionine concns. up. . .
IT 52-90-4, L-**Cysteine**, biological studies 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-84-8, L-Aspartic acid, biological studies 56-85-9, L-Glutamine, biological studies 56-86-0, L-Glutamic acid, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, L-Leucine, biological studies 63-91-2, L-Phenylalanine, biological studies 70-26-8, L-Ornithine 70-47-3, L-Asparagine, biological studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-22-3, L-Tryptophan, biological studies 73-32-5, L-Isoleucine, biological studies 74-79-3, L-**Arginine**, biological studies 147-85-3, L-Proline, biological studies 372-75-8, L-Citrulline
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(dietary DL-methionine excess intake adverse effects and their age and body wt. dependence in male Holstein calves)

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS
AB . . . and 30.0 g/kg feed. The pigs were fed at 2.8 .times. energy for maintenance. In all diets the EAA (including **arginine**) supply was at or slightly above the recommended ratios to lysine. In a concomitant slaughter expt., the AA compn. of. . . est. the AA utilization. The effects of TN and EAAN/NEAAN and their interaction on N retention and utilization were significant. **Nitrogen retention** increased with higher TN in the diet. Increasing EAAN/NEAAN from 38:62 to 50:50 improved the N retention only at the. .

>100% at the highest EAAN/NEAAN, which was expected because all of these AA are synthesized in pigs. The utilization of **arginine** was also >100% in most treatments, which confirms the semiessential character of this AA for maintenance in pigs. Thus, the. . .
IT 52-90-4, L-**Cysteine**, biological studies 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-84-8, L-Aspartic acid, biological studies 56-86-0, L-Glutamic acid, biological studies 56-87-1, L-Lysine, biological studies 60-18-4, L-Tyrosine, biological studies

61-90-5, L-Leucine, biological studies 63-68-3, L-Methionine, biological studies 63-91-2, L-Phenylalanine, biological studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-22-3, L-Tryptophan, biological studies 73-32-5, L-Isoleucine, biological studies 74-79-3, L-**Arginine**, biological studies 147-85-3, L-Proline, biological studies
RL: BPR (Biological process); FFD (Food or feed use); BIOL (Biological study); PROC (Process); USES (Uses)
(dietary protein levels and essential-to-nonessential amino acid ratio effects on nitrogen and amino acids utilization by growing pigs)

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2000 ACS
AB . . . and were below the ref. range in the nonsupplemented group. Plasma amino acid levels of five essential amino acids (methionine, **cysteine**, isoleucine, leucine, **arginine**) were below the ref. range in the nonsupplemented group, whereas only cystine was below the ref. range in the supplemented group. **Nitrogen retention** was improved significantly by the administration of amino acids (-110 .+-. 44 mg nitrogen per kg per day in the. . .
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:end

=> s inositol

L11 25626 INOSITOL

=> s l11 and insulin

107237 INSULIN
L12 769 L11 AND INSULIN

=> s L12 and insulin(w)activity

107237 INSULIN
1413659 ACTIVITY
423 INSULIN(W)ACTIVITY
L13 4 L12 AND INSULIN(W)ACTIVITY

=> display browse

ENTER (L13) OR L#:L13

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-4

L13 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1997:470290 CAPLUS
DN 127:156986
TI Phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms
AU Muller, Gunter; Wied, Susanne; Crecelius, Anna; Kessler, Alexandra; Eckel, Juergen
CS Hoechst AG, Res. Site Frankfurt, Hoechst Marion Roussel, Frankfurt am Main, D-65926, Germany
SO Endocrinology (1997), 138(8), 3459-3475
CODEN: ENDOAO; ISSN: 0013-7227
PB Endocrine Society
DT Journal
LA English

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1992:208184 CAPLUS
DN 116:208184
TI Correlation of **insulin** receptor level with both **insulin** action and breakdown of a potential **insulin** mediator precursor; studies in CHO cell-lines transfected with **insulin** receptor cDNA
AU Macaulay, S. Lance; Clark, Stella; Larkins, Richard G.
CS Dep. Med., Melbourne Univ., Australia
SO Biochim. Biophys. Acta (1991), 1134(1), 53-60
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English

L13 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1988:401493 CAPLUS
DN 109:1493
TI **Insulin activity** messengers, their generation from glycolipid precursors with phospholipase C, assays for them, and their use in diabetes diagnosis and therapy
IN Saltiel, Alan R.
PA Rockefeller University, USA
SO Eur. Pat. Appl., 108 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 245956	A2	19871119	EP 1987-303158	19870410
	EP 245956	A3	19890503		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 4906468	A	19900306	US 1986-850842	19860411
	US 4839466	A	19890613	US 1987-33075	19870407
	JP 63119499	A2	19880524	JP 1987-89660	19870411
	AU 8771463	A1	19871015	AU 1987-71463	19870413
	AU 614260	B2	19910829		
PRAI	US 1986-850842		19860411		

L13 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2000 ACS
AN 1988:132201 CAPLUS
DN 108:132201
TI Partial structure of an **insulin**-sensitive glycophospholipid
AU Mato, Jose M.; Kelly, Kathleen L.; Abler, Andrew; Jarett, Leonard; Corkey, Barbara E.; Cashel, Jo Anne; Zopf, David
CS Fundacion Jimenez Diaz, Madrid, 28040, Spain
SO Biochem. Biophys. Res. Commun. (1987), 146(2), 764-70
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-4, kwic

L13 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2000 ACS
TI Phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms
AB Polar headgroups of free glycosylphosphatidylinositol (GPI) lipids or protein-bound GPI membrane anchors have been shown to exhibit **insulin**-mimetic activity in different cell types. However, elucidation of the mol. mode of action of these phospho-inositolglycan (PIG) mols. has been. . . C) cleavage of the GPI-anchored plasma membrane protein, Gcelp, from the yeast Saccharomyces cerevisiae. The structure of the resulting PIG-P,
NH2-Tyr-Cys-Asn-ethanolamine-PO4-6(Man1-

2)Man1-2Man1-6Man1-4GlcNH21-6myo-**inositol**-1,2-cyclicPO4, was revealed by amino acid anal. and Dionex exchange chromatog. of fragments generated enzymic[redacted]y or chem. from the neutral gl[redacted]n. . . . and glycogenesis and glycogen synthase in isolated rat diaphragms. The concn.-dependent effects of the PIG-P reached 70-90% of the maximal **insulin activity** with EC50-values of 0.5-5 .mu.M. Chem. or enzymic cleavages within the glycan or peptide portion of the PIG-P led to decrease or loss of activity. The data demonstrate that PIG-P exhibits a potent **insulin**-mimetic activity which covers a broad spectrum of metabolic **insulin** actions on glucose transport and metab.

ST phosphoinositolglycan peptide yeast **insulin** mimetic

IT Abdominal diaphragm
Adipocyte
Glucose transport
Myocyte (heart)
Saccharomyces cerevisiae
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT GLUT4 glucose transporter
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT Lipids, biological studies
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT 9004-10-8, **Insulin**, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(mimetic; phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT 193621-91-9
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT 9014-56-6, Glycogen synthase 9029-96-3, Glycerol-3-phosphate acyltransferase 142008-29-5, Protein kinase A
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT 63551-76-8, Phosphatidylinositol-specific phospholipase C
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

IT 9005-79-2, Glycogen, biological studies
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(phosphoinositolglycan-peptides from yeast potently induce metabolic **insulin** actions in isolated rat adipocytes, cardiomyocytes, and diaphragms)

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS

TI Correlation of **insulin** receptor level with both **insulin** action and breakdown of a potential **insulin** mediator precursor; studies in CHO cell lines transfected with **insulin** receptor cDNA

AB . . . of some of insulins actions. The potential relevance of this compd. was investigated further by correlating its breakdown with other **insulin** actions in Chinese hamster ovary (CHO) cells which express different levels of **insulin** receptor. Comparisons were drawn between parent CHO cells expressing 3 .times. 103 receptors/cell and two cell-lines transfected with human **insulin** receptor cDNA, that expressed 600-fold (CHO.TH) and 300-fold (CHO.T) the parent receptor level. A PI-glycan was isolated from all cells that incorporated [3H]glucosamine, [3H]galactose, and [3H]**inositol** and was rapidly turned over upon **insulin** stimulation. Maximal turnover by **insulin** of approx. 20% was achieved in each cell line consistent with the fibroblastic nature of these cells. The effect of increased **insulin** receptor expression was to increase the sensitivity of the PI-glycan response to **insulin**. Increasing receptor no. from 3 .times. 103 to 0.88 .times. 106 receptors/cell also increased the sensitivity of response of other **insulin** actions, namely activation of pyruvate dehydrogenase and glucose utilization and transport. Thus, turnover of the PI-glycan is linked closely to both metabolic actions of **insulin** and to cell surface **insulin** receptor expression, further supporting its potential role in **insulin** action.

ST phosphatidylinositol glycan **insulin** mediator; receptor **insulin** phosphatidylinositol glycan

IT Animal cell line
(CHO, **insulin** receptor d. of, phosphatidylinositol glycan turnover correlation with)

IT Receptors
RL: PRP (Properties)
(**insulin**, phosphatidylinositol glycan turnover correlation with d. of, **insulin** actions in relation to)

IT Glycophospholipids
RL: BIOL (Biological study)
(phosphatidylinositol-contg., as **insulin activity** mediator, **insulin** receptor d. correlation with)

IT 9004-10-8, **Insulin**, biological studies
RL: BIOL (Biological study)
(biol. activities and receptors for, phosphatidylinositol glycan turnover correlation with)

IT 9014-20-4, Pyruvate dehydrogenase
RL: BIOL (Biological study)
(**insulin** activation of, **insulin** receptor d. and phosphatidylinositol glycan turnover in relation to)

IT 50-99-7, Glucose, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metab. of, **insulin** effect on, **insulin** receptor d. and phosphatidylinositol glycan turnover in relation to)

L13 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2000 ACS

TI **Insulin activity** messengers, their generation from glycolipid precursors with phospholipase C, assays for them, and their use in diabetes diagnosis and therapy

AB Two carbohydrates (an **inositol** 1,2-cyclic phosphate deriv. and an **inositol** 1- or 2-phosphate deriv.) are identified which act as messengers for **insulin activity** (i.e. mediate the activity of **insulin** at the cellular level on certain key enzymes). These carbohydrates are generated by cleavage of an **inositol**-contg. glycolipid precursor with a phosphatidylinositol-glycan-specific phospholipase C (I) which is present e.g. in rat liver cell membranes. I and the messenger carbohydrates are useful in diagnosis and therapy of diabetes and investigation of the mechanism of action of

insulin. The glycolipid precursor was extd. from a bovine liver particulate fraction by acid pptn. of impurities and chromatog., and was. . .

ST **insulin** messenger **inositol** phosphate; phosphoinositol
insulin messenger phospholipase C; phosphatidylinositol cleavage
insulin messenger

IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(as **insulin** 2nd messengers)

IT Diabetes mellitus
Obesity
(diagnosis of, **inositol** phosphates as **insulin** 2nd messengers in)

IT Adipose tissue, composition
(enzymes of, **insulin** 2nd messenger **inositol** phosphates effect on)

IT Liver, composition
Muscle, composition
(glycolipid and phospholipase C of cell membrane of, **inositol** phosphates formation as **insulin** 2nd messengers in relation to)

IT Cell membrane
(glycolipid and phospholipase C of, of liver and muscle, **inositol** phosphate formation as **insulin** 2nd messenger in relation to)

IT Animal tissue
Blood analysis
Body fluid
(**insulin** 2nd messenger **inositol** phosphates and glycolipid and phospholipase C detn. in)

IT Antidiabetics and Hypoglycemics
(**insulin** 2nd messenger **inositol** phosphates and glycolipid and phospholipase C of cell membrane and antibodies)

IT Pharmaceuticals
(**insulin** 2nd messenger response to, screening for)

IT Glycolipids
RL: BIOL (Biological study)
(of cell membrane, **inositol** phosphate formation as **insulin** 2nd messenger in relation to)

IT Diagnosis
(of endocrine disorders, **inositol** phosphates as **insulin** 2nd messengers in)

IT Phosphatidylinositols
RL: BIOL (Biological study)
(of glycolipid, of cell membrane, **inositol** phosphate formation as **insulin** 2nd messenger in relation to)

IT Staphylococcus aureus
(phosphatidylinositol-specific phospholipase C of, **insulin** 2nd messenger **inositol** phosphates formation from cell membrane glycolipid by)

IT Antibodies
RL: BIOL (Biological study)
(to **inositol** phosphates as **insulin** 2nd messengers)

IT Glycerides, biological studies
RL: BIOL (Biological study)
(di-, myristate-contg., formation of, from cell membrane glycolipid by phospholipase C, **insulin** 2nd messengers in relation to)

IT Endocrine system
(disease, diagnosis of, **inositol** phosphates as **insulin** 2nd messengers in)

IT 7336-80-3 15421-51-9, **Inositol** 1-phosphate 43119-57-9, **Inositol** 1,2-cyclic phosphate
RL: PROC (Process)
(as **insulin** 2nd messenger, formation of, from cell membrane glycolipid with phospholipase C)

IT 544-63-8, Myristic acid, biological studies
RL: BIOL (Biological study)
(diglycerides contg., from glycolipid of cell membrane, **insulin** 2nd messengers in relation to)
IT 9012-42-4, Adenylate cyclase 9014-20-4, Pyruvate dehydrogenase 9023-93-2, Acetyl-CoA carboxylase 9036-21-9, CAMP phosphodiesterase
RL: BIOL (Biological study)
(**inositol** phosphates as 2nd messengers for **insulin** in regulation of)
IT 9004-10-8, **Insulin**, biological studies
RL: BIOL (Biological study)
(**inositol** phosphates as 2nd messengers for, formation of, from glycolipid of cell membrane with phospholipase C)
IT 3416-24-8, Glucosamine
RL: BIOL (Biological study)
(**insulin** 2nd messenger contg. **inositol** phosphates and)
IT 9001-86-9P, Phospholipase C
RL: PREP (Preparation)
(phosphatidylinositol-specific, **inositol** phosphates formation from cell membrane glycolipid by, as 2nd messengers for **insulin**)

L13 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2000 ACS
TI Partial structure of an **insulin**-sensitive glycophospholipid
AB The structure of a glycophospholipid, which has been involved in **insulin activity**, was investigated using H35 cells and rat liver membranes. This mol. contains a phosphatidyl-chiro-**inositol** moiety, glycosidically linked to a non-N-acetylated glucosamine. In addn., the polar head group of the lipid contains galactose, probably 4. . .
ST glycophospholipid **insulin** sensitive structure
IT Phosphatidylinositols
RL: RCT (Reactant)
(structure of **insulin**-sensitive phosphogalactolipid contg.)
IT Glycophospholipids
RL: RCT (Reactant)
(galactose-contg., structure of **insulin**-sensitive)
IT Liver, neoplasm
(hepatoma, glycophospholipid of, structure of **insulin**-sensitive)
IT Galactolipids
RL: RCT (Reactant)
(phospho-, structure of **insulin**-sensitive)
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:end

=> s inositol and muscle

25626 INOSITOL
198488 MUSCLE
L14 1839 INOSITOL AND MUSCLE

=> s L14 and increased muscle

1369449 INCREASED
198488 MUSCLE
628 INCREASED MUSCLE
(INCREASED(W)MUSCLE)
L15 2 L14 AND INCREASED MUSCLE

=> display browse

ENTER (L15) OR L#:L15

```
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:end


=> file uspatfull

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                                                        ENTRY     SESSION
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FILE LAST UPDATED: 4 Apr 2000 (20000404/ED)
HIGHEST PATENT NUMBER: US6047398
CA INDEXING IS CURRENT THROUGH 4 Apr 2000 (20000404/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 4 Apr 2000 (20000404/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 1999
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Nov 1999

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>>> fields.  This thesaurus includes catchword terms from the       <<<
>>> USPTO/MOC subject headings and subheadings.  Thesauri are also  <<<
>>> available for the WIPO International Patent Classification      <<<
>>> (IPC) Manuals, editions 1-6, in the /IC1, /IC2, /IC3, /IC4,     <<<
>>> /IC5, and /IC (/IC6) fields, respectively.  The thesauri in     <<<
>>> the /IC5 and /IC fields include the corresponding catchword     <<<
>>> terms from the IPC subject headings and subheadings.            <<<

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s inositol amd muscle

          6633 INOSITOL
          4289 AMD
         37209 MUSCLE
L16          0 INOSITOL AMD MUSCLE
                 (INOSITOL(W)AMD(W)MUSCLE)

=> s inositol and muscle

          6633 INOSITOL
         37209 MUSCLE
L17       1027 INOSITOL AND MUSCLE

=> s L17 and muscle increase

         37209 MUSCLE
        880394 INCREASE
            19 MUSCLE INCREASE
                 (MUSCLE(W)INCREASE)
L18          0 L17 AND MUSCLE INCREASE
```

```
=> s L17 and muscle growth

         37209 MUSCLE
        165124 GROWTH
           122 MUSCLE GROWTH
                 (MUSCLE(W)GROWTH)
L19         11 L17 AND MUSCLE GROWTH

=> display browse

ENTER (L19) OR L#:L19

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:1-11


L19  ANSWER 1 OF 11  USPATFULL
AN      2000:15472  USPATFULL
TI      Methods of identifying agonists or antagonists of angiotensin IV
IN      Harding, Joseph W., Pullman, WA, United States
        Wright, John W., Pullman, WA, United States
PA      Washington State University Research Foundation, Pullman, WA, United
        States (U.S. corporation)
PI      US 6022696  20000208
AI      US 1998-54308  19980402 (9)
RLI     Division of Ser. No. US 360784
DT      Utility
LN.CNT 4234
INCL    INCLM: 435/007.210
        INCLS: 435/007.100; 435/007.200; 530/316.000; 530/329.000
NCL     NCLM:  435/007.210
        NCLS:  435/007.100; 435/007.200; 530/316.000; 530/329.000
IC      [6]
        ICM: G01N033-567
        ICS: C07K007-14
EXF     435/7.1; 435/7.2; 435/7.21; 530/316; 530/329
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19  ANSWER 2 OF 11  USPATFULL
AN      1999:85432  USPATFULL
TI      Method for treating diseases mediated by cellular proliferation in
        response to PDGF, EGF, FGF and VEGF
IN      Brown, Paul A., Snohomish, WA, United States
        Bursten, Stuart L., Snoqualmie, WA, United States
        Rice, Glenn C., Seattle, WA, United States
        Singer, Jack W., Seattle, WA, United States
PA      Cell Therapeutics Inc., Seattle, WA, United States (U.S. corporation)
PI      US 5929081  19990727
AI      US 1995-485320  19950607 (8)
RLI     Division of Ser. No. US 1994-181947, filed on 14 Jan 1994
DT      Utility
LN.CNT 1392
INCL    INCLM: 514/263.000
        INCLS: 514/228.800; 514/229.500; 514/277.000; 514/300.000; 514/302.000
NCL     NCLM:  514/263.000
        NCLS:  514/228.800; 514/229.500; 514/277.000; 514/300.000; 514/302.000
IC      [6]
        ICM: A61K031-52
        ICS: A61K031-535; A61K031-51; A61K031-44
EXF     514/263; 514/228.8; 514/229.5; 514/277; 514/300; 514/302
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19  ANSWER 3 OF 11  USPATFULL
AN      1999:4675  USPATFULL
TI      Method for treating diseases mediated by cellular proliferation in
```

response to PDGF, EGF, FGF, and VEGF
IN Brown, Paul A., Snohomish, WA, United States
Bursten, Stuart [redacted], Snoqualmie, WA, United State
Rice, Glenn C., Seattle, WA, United States
Singer, Jack W., Seattle, WA, United States
PA Cell Therapeutics, Inc., Seattle, WA, United States (U.S. corporation)
PI US 5859018 19990112
AI US 1995-485322 19950607 (8)
RLI Division of Ser. No. US 1994-181947, filed on 14 Jan 1994, now abandoned
DT Utility
LN.CNT 1345
INCL INCLM: 514/263.000
INCLS: 514/396.000; 514/315.000; 514/247.000; 514/408.000
NCL NCLM: 514/263.000
NCLS: 514/247.000; 514/315.000; 514/396.000; 514/408.000
IC [6]
ICM: A61K031-44
ICS: A61K031-52; A61K031-445; A61K031-50
EXF 514/263; 514/296; 514/315; 514/247; 514/408
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 4 OF 11 USPATFULL
AN 1998:162647 USPATFULL
TI Angiotensin IV peptides and receptor
IN Harding, Joseph W., Pullman, WA, United States
Wright, John W., Pullman, WA, United States
PA Washington State University Research Foundation, Pullman, WA, United States (U.S. corporation)
PI US 5854388 19981229
WO 9400492 19940106
AI US 1994-360784 19941222 (8)
WO 1993-US6038 19930624
19941222 PCT 371 date
19941222 PCT 102(e) date
DT Utility
LN.CNT 4073
INCL INCLM: 530/329.000
INCLS: 530/387.200; 530/387.900; 530/388.240; 436/548.000; 260/112.500; 424/177.000
NCL NCLM: 530/329.000
NCLS: 436/548.000; 514/017.000; 514/018.000; 530/330.000; 530/331.000; 530/387.200; 530/387.900; 530/388.240
IC [6]
ICM: A61K038-04
ICS: A61K039-06; C07K016-00; C07K005-00
EXF 530/329; 530/387.9; 530/388.24; 530/389.2; 436/548; 260/112.5; 424/177

L19 ANSWER 5 OF 11 USPATFULL
AN 1998:98922 USPATFULL
TI Method for treating diseases mediated by cellular proliferation in response to PDGF,EGF,FGF and VEGF
IN Brown, Paul A., Snohomish, WA, United States
Bursten, Stuart L., Snoqualmie, WA, United States
Rice, Glenn C., Seattle, WA, United States
Singer, Jack W., Seattle, WA, United States
PA Cell Therapeutics, Inc., Seattle, WA, United States (U.S. corporation)
PI US 5795898 19980818
AI US 1995-485325 19950607 (8)
RLI Division of Ser. No. US 1994-181947, filed on 14 Jan 1994, now abandoned
DT Utility
LN.CNT 1341
INCL INCLM: 514/263.000
INCLS: 514/396.000; 514/315.000; 514/247.000; 514/408.000

NCL NCLM: 514/263.000
NCLS: 514/247.000; 514/315.000; 514/396.000; 514/408.000
IC [6]
ICM: A61K031-52
ICS: A61K031-445; A61K031-415; A61K031-40
EXF 514/263; 514/396; 514/315; 514/247; 514/408
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 6 OF 11 USPATFULL
AN 97:54205 USPATFULL
TI Regulation of x-ray mediated gene expression
IN Weichselbaum, Ralph R., Chicago, IL, United States
Hallahan, Dennis E., Park Ridge, IL, United States
Kufe, Donald W., Wellesley, MA, United States
PA Arch Development Corp., Chicago, IL, United States (U.S. corporation)
Dana-Farber Cancer Institute, Boston, MA, United States (U.S. corporation)
PI US 5641755 19970624
AI US 1994-278452 19940720 (8)
RLI Continuation-in-part of Ser. No. US 1994-192107, filed on 4 Feb 1994, now abandoned
DT Utility
LN.CNT 1675
INCL INCLM: 514/044.000
INCLS: 424/009.200; 435/006.000; 435/029.000; 514/396.000; 935/036.000; 935/062.000; 536/024.100
NCL NCLM: 514/044.000
NCLS: 424/009.200; 435/006.000; 435/029.000; 514/396.000; 536/024.100
IC [6]
ICM: A61K048-00
EXF 424/9.1; 424/1.11; 514/44; 514/396; 435/172.1; 435/172.3; 435/240.2; 435/6; 435/29; 536/24.1; 935/36; 935/62
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 7 OF 11 USPATFULL
AN 96:101479 USPATFULL
TI Therapeutic treatment for inhibiting vascular restenosis
IN Lyle, Leon R., Webster Groves, MO, United States
Kunkel, Steven L., Ann Arbor, MI, United States
Strieter, Robert M., Ann Arbor, MI, United States
PA The Regents of the University of Michigan, Ann Arbor, MI, United States (U.S. corporation)
PI US 5571713 19961105
AI US 1994-250958 19940527 (8)
RLI Continuation-in-part of Ser. No. US 1992-965678, filed on 22 Oct 1992, now abandoned
DT Utility
LN.CNT 780
INCL INCLM: 435/240.200
INCLS: 536/024.500; 536/024.310; 536/024.330; 536/026.100
NCL NCLM: 435/375.000
NCLS: 536/024.310; 536/024.330; 536/024.500; 536/026.100
IC [6]
ICM: C12N005-10
ICS: C12N005-08; C07H021-04; C07H021-02
EXF 536/24.5; 536/24.31; 536/24.33; 536/26.1; 514/44; 435/240.2; 435/6
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 8 OF 11 USPATFULL
AN 95:40717 USPATFULL
TI Labelled monocyte chemoattractant protein material and medical uses thereof
IN Kunkel, Steven L., Ann Arbor, MI, United States
Lyle, Leon R., Webster Groves, MO, United States
Strieter, Robert M., Ann Arbor, MI, United States

PA The Regents of the University of Michigan, Ann Arbor, MI, United States (U.S. corporation)
Mallinckrodt Medical, Inc., St. Louis, MO, United States (U.S. corporation)
PI US 5413778 19950509
AI US 1992-956862 19921005 (7)
DT Utility
LN.CNT 566
INCL INCLM: 424/001.410
INCLS: 530/402.000; 530/408.000; 530/409.000
NCL NCLM: 424/001.410
NCLS: 530/402.000; 530/408.000; 530/409.000
IC [6]
ICM: A61K049-02
EXF 424/1.1; 424/9; 424/1.41; 930/141; 930/280; 930/22; 530/300; 530/324; 530/351; 530/402; 530/408; 530/409
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 9 OF 11 USPATFULL
AN 94:55475 USPATFULL
TI Media for normal human **muscle** satellite cells
IN Ham, Richard G., Boulder, CO, United States
St. Clair, Judith A., Boulder, CO, United States
Nie, Zetan, Boston, MA, United States
PA University of Colorado Foundation, Inc., Boulder, CO, United States (U.S. corporation)
PI US 5324656 19940628
AI US 1992-928958 19920812 (7)
RLI Division of Ser. No. US 1988-265785, filed on 1 Nov 1988, now patented, Pat. No. US 5143842
DT Utility
LN.CNT 1409
INCL INCLM: 435/240.200
INCLS: 435/240.210; 435/240.300; 435/240.310
NCL NCLM: 435/384.000
NCLS: 435/387.000; 435/388.000; 435/391.000; 435/392.000; 435/406.000; 435/407.000; 435/408.000
IC [5]
ICM: C12N005-00
ICS: C12N005-08; C12N005-06
EXF 435/240.31; 435/240.3; 435/240.2; 435/240.21
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 10 OF 11 USPATFULL
AN 94:19977 USPATFULL
TI Improved sustained energy and anabolic composition and method of making
IN Paul, Stephen M., San Clemente, CA, United States
Ashmead, H. DeWayne, Fruit Heights, UT, United States
PA Metagenics, Inc., San Clemente, CA, United States (U.S. corporation)
Albion International, Inc., Clearfield, UT, United States (U.S. corporation)
PI US 5292538 19940308
AI US 1992-918446 19920722 (7)
DT Utility
LN.CNT 839
INCL INCLM: 426/074.000
INCLS: 426/271.000; 426/656.000; 426/658.000
NCL NCLM: 426/074.000
NCLS: 426/271.000; 426/656.000; 426/658.000
IC [5]
ICM: A23L001-305
EXF 426/74; 426/271; 426/656; 426/658
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 11 OF 11 USPATFULL

AN 92:72396 USPATFULL
TI Media for normal human **muscle** satellite cells
IN Ham, Richard G., Boulder, CO, United States
St. Clair, Judith A., Boulder, CO, United States
PA The University of Colorado Foundation, Inc., Boulder, CO, United States (U.S. corporation)
PI US 5143842 19920901
AI US 1988-265785 19881101 (7)
DT Utility
LN.CNT 961
INCL INCLM: 435/240.200
INCLS: 435/240.310; 435/240.300
NCL NCLM: 435/384.000
NCLS: 435/387.000; 435/388.000; 435/392.000; 435/405.000; 435/406.000; 435/407.000
IC [5]
ICM: C12N005-08
ICS: C12N005-00
EXF 435/240.3; 435/240.31; 435/240.2
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:10, kwic

L19 ANSWER 10 OF 11 USPATFULL
SUMM It is well known that both negative energy balance and **muscle** catabolism are consequences of physiological stress that often accompanies protein calorie malnutrition, strenuous physical exercise, physical trauma, burn injury, surgical. . . that maintaining a positive metabolic energy balance can help to alleviate such problems and also has a sparing effect on **muscle** catabolism that occurs during strenuous physical exertion causing fatigue.
SUMM To properly combat the above symptoms and permit **muscle growth**, it is essential that appropriate amounts of nutrients be available to supplant those which are utilized. For example, during periods. . . and to also maintain proper enzymatic functioning, pH balance, osmotic pressure, and the like. Therefore, to promote endurance and facilitate **muscle** anabolism it is necessary, in addition to water, to provide a sustained source of energy, and also a source of.
. .
SUMM . . . to counteract harmful free radicals and oxidants. Further, most of these formulas do not contain lipotropic agents, such as choline, **inositol**, pantetheine, and betaine hydrochloride, to enhance utilization of lipids.
DETD . . . to the formula, when present in sufficient amounts, is also helpful for increasing endurance. This is primarily due to the **muscle** sparing and energy effects of supplementary amino acids taken during exercise. As such, to be effective, sustained energy and anabolic. . .
DETD Readily utilizable proteins and amino acids also prove helpful for increasing endurance. This is primarily due to the **muscle** sparing and energy effects of supplementary amino acids taken during exercise. To be effective, sustained energy and anabolic formulations must. . .
DETD . . . the body by hastening the removal of or decreasing the deposit of fat in the liver. These ingredients include choline, **inositol**, pantetheine, and betaine hydrochloride. They may be added to the basic formulation, with or without other ingredients mentioned above, in. . .
DETD

RANGES IN PARTS BY WEIGHT
LIPOTROPIC AGENTS

	Broad	Preferred
Choline	25-100 .times. (10.sup.-3)	40-90 .times. (10.sup.-3)
Inositol	25-100 .times. (10.sup.-3)	40-90 .times. (10.sup.-3)
Pantetheine	0-250 .times. (10.sup.-3)	1-250 .times. (10.sup.-3)
Betaine HCl	0-100 .times. (10.sup.-3)	1-100 .times. (10.sup.-3)

DETD . . . energy balance, both immediately after ingestion and over a sustained period of time, and also has a sparing effect on **muscle** catabolism. The advantages attendant to these effects are significant in that both negative energy balance and **muscle** catabolism are consequences of physiological stress that often accompanies protein calorie malnutrition, strenuous physical exercise, physical trauma, burn injury, surgical. . .

DETD The formulation also contains hydrolyzed protein and, optionally, a fat or lipid source to provide sustained energy and nutrients for **muscle growth**. Proteins and lipids are both energy-rich foods and provide nutritional balance over formulations containing only carbohydrates as a source of. . . to be broken down into simpler metabolites before use by the body for energy production or as building blocks for **muscle growth**. Thus, the proteins and lipids release energy in a manner consistent with sustained energy and anabolism. As stated previously, in. . .

DETD . . . as an inorganic salt. Additionally, the high level of magnesium found in the present composition mimics intracellular mineral ratios of **muscle** cells to significantly increase cell metabolism and energy production during prolonged exercise.

DETD . . . waste products during periods of intense physical activity or stress. In addition to the electrolyte ratios paralleling those found in **muscle** cells, as previously indicated, the electrolytes which can be delivered via an amino acid transport system makes them immediately available. . .

DETD . . . composition helps to replenish such losses and further assist as coenzymes in the production of metabolic energy and building of **muscle**.

DETD . . . preferred embodiment, the composition also contains certain antioxidants and lipotropic agents that optimize production of metabolic energy and building of **muscle**. The antioxidants neutralize the harmful effects of free radicals and oxidants, whereas the lipotropic agents increase metabolism of fat in. . .

DETD . . . 56.0 80.0

Vitamin C (mg) 19.2 15.0 -- -- -- -- 25.0 53.0

Choline (mg) 64.1 55.0 -- 73.0 -- -- 70.0 48.0

Inositol (mg) 64.1 55.0 -- 73.0

-- -- 74.0
63.0

Pantetheine (mg)
32.1
60.0
-- 22.0
-- -- 45.0
23.0

Betaine HCL (mg)

. . .

CLM What is claimed is:

. . . claim 3 further comprising (ii) from 25 to 100.times.(10.sup.-3) parts of choline; (jj) from 25 to 100 .times.(10.sup.-3) parts of **inositol**; (kk) from 0 to 250.times.(10.sup.-3) parts of pantetheine; and (11) from 0 to 100.times.(10.sup.-3) parts of betaine hydrochloride.

. . . comprises in parts by weight (ii) from 25 to 100.times.(10.sup.-3) parts of choline; (jj) from 25 to 100.times.(10.sup.-3) parts of **inositol**; (kk) from 0 to 250.times.(10.sup.-3) parts of pantetheine; and (ll) from 0 to 100.times.(10.sup.-3) parts of betaine hydrochloride.

ENTER (DIS), ANSWER NUMBERS, FORMATS, OR END:10

L19 ANSWER 10 OF 11 USPATFULL
AN 94:19977 USPATFULL
TI Improved sustained energy and anabolic composition and method of making
IN Paul, Stephen M., San Clemente, CA, United States
Ashmead, H. DeWayne, Fruit Heights, UT, United States
PA Metagenics, Inc., San Clemente, CA, United States (U.S. corporation)
Albion International, Inc., Clearfield, UT, United States (U.S. corporation)
PI US 5292538 19940308
AI US 1992-918446 19920722 (7)
DT Utility
LN.CNT 839
INCL INCLM: 426/074.000
INCLS: 426/271.000; 426/656.000; 426/658.000
NCL NCLM: 426/074.000
NCLS: 426/271.000; 426/656.000; 426/658.000
IC [5]
ICM: A23L001-305
EXF 426/74; 426/271; 426/656; 426/658
CAS INDEXING IS AVAILABLE FOR THIS PATENT.